

The Unemployment Accelerator by Blanco and Navarro

Alberto Martin

CREI, UPF, Barcelona GSE

March 21, 2017

- **Idea #1: workers are an asset to the firm**

- ▶ In the presence of labor market frictions, “installed” workers are valuable
- ▶ Value of firm fluctuates with value of installed workers
 - ★ When labor market is tight: value of workers \uparrow and so does value of firm
 - ★ When labor market is slack: value of workers \downarrow and so does value of firm

- **Idea #2: in general equilibrium, unemployment accelerator (UA)**

- ▶ Suppose aggregate shock increases fixed cost of production
- ▶ *Direct effect* on value of firms: default and exit
- ▶ *Indirect effect* on value of firms

Overview

- **Idea #1: workers are an asset to the firm**

- ▶ In the presence of labor market frictions, “installed” workers are valuable
- ▶ Value of firm fluctuates with value of installed workers
 - ★ When labor market is tight: value of workers \uparrow and so does value of firm
 - ★ When labor market is slack: value of workers \downarrow and so does value of firm

- **Idea #2: in general equilibrium, unemployment accelerator (UA)**

- ▶ Suppose aggregate shock increases fixed cost of production
- ▶ *Direct effect* on value of firms: default and exit
- ▶ *Indirect effect* on value of firms

- **In the paper**

- ▶ Model
- ▶ Quantitative implications
- ▶ Some empirical evidence

General reaction

- Both are interesting ideas
 - ▶ Not entirely novel (Merz and Yashiv 2007, Yashiv 2000, 2016)
 - ▶ Paper still somewhat preliminary
- Creation of jobs as an investment
 - ▶ Spend resources today (interview, screening, selection) → raise profits in the future
 - ▶ In macro (-finance) literature, role of physical investment emphasized
 - ★ But capital stock moves around very little
 - ★ How about employment?
- My discussion:
 - ▶ Mechanism: focus on UA (GE implications)
 - ▶ Unemployment accelerator?
 - ▶ Quantitative and empirical results

Mechanism: sketch of model

- Business cycle model with
 - ▶ Capital and labor
 - ▶ Frictional financial markets
- Free entry
- Firms issue long-term debt due to tax advantage
- Strategic default:
 - ▶ Firm compares continuation value with debt
 - ▶ In the event of default, firms exit and creditors seize share of capital

Sketch of model

- Setup sounds simple enough, but....

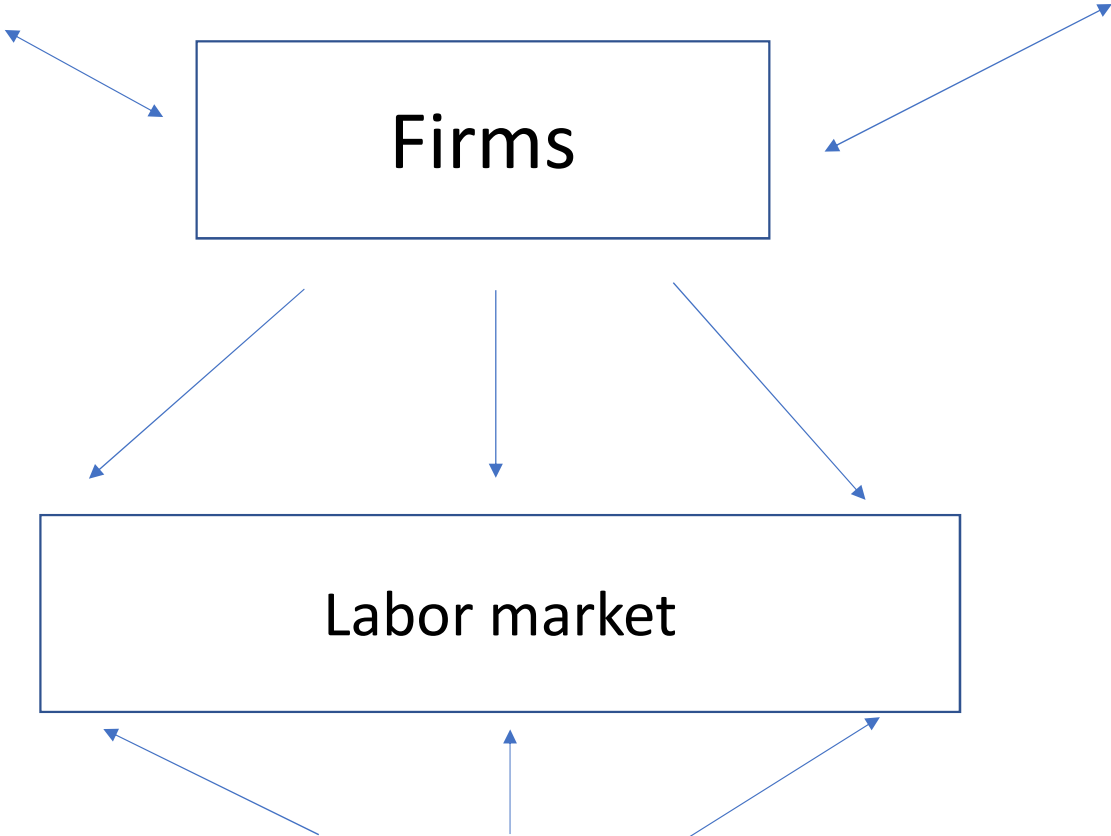
Lenders

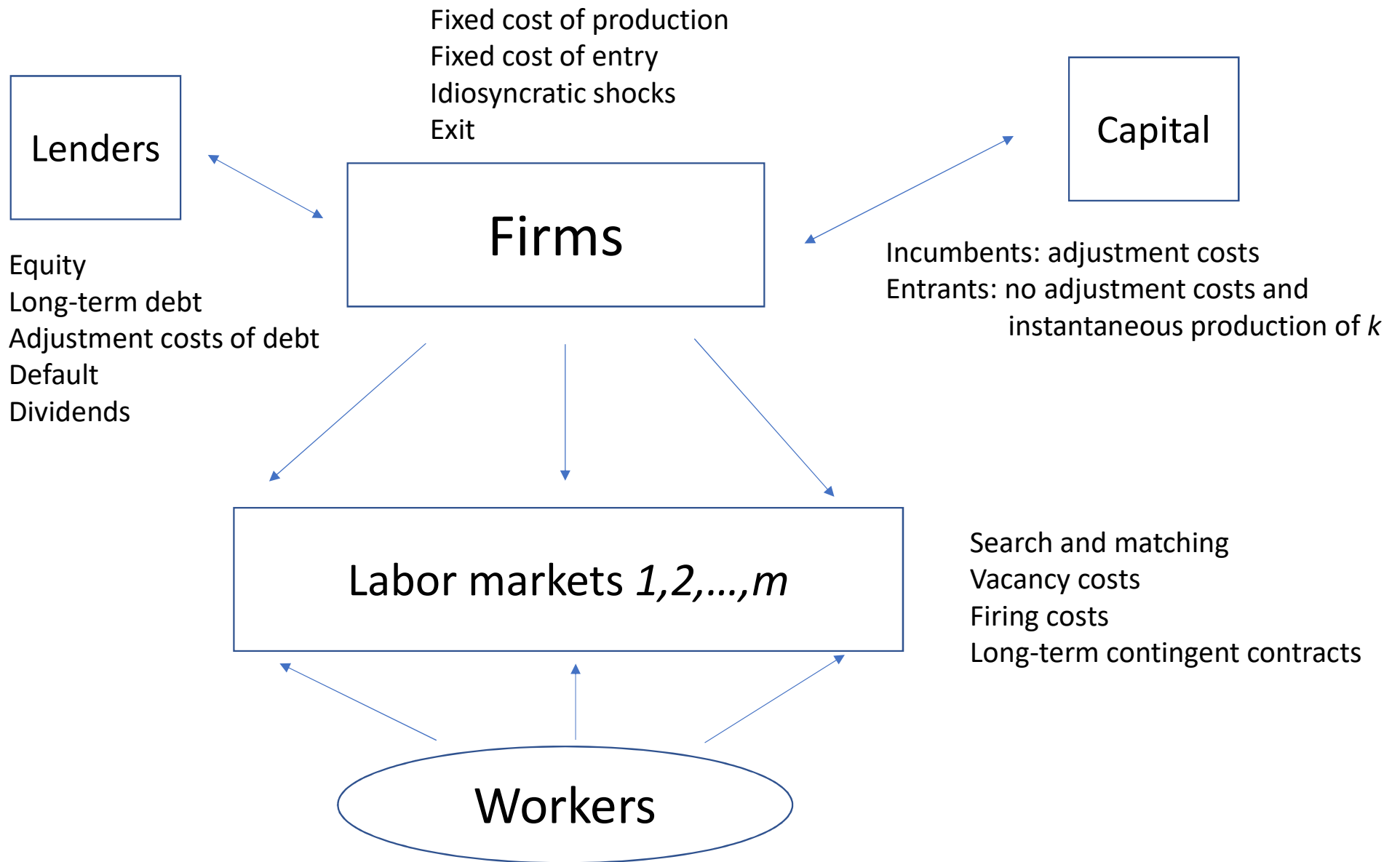
Firms

Capital

Labor market

Workers





Sketch of model

- Claim:

- ▶ As long as it is costly to hire workers, installed workers are valuable
- ▶ Value of firm is increasing in number and value of installed workers
- ▶ When value of workers falls, so does value of firm

Firms

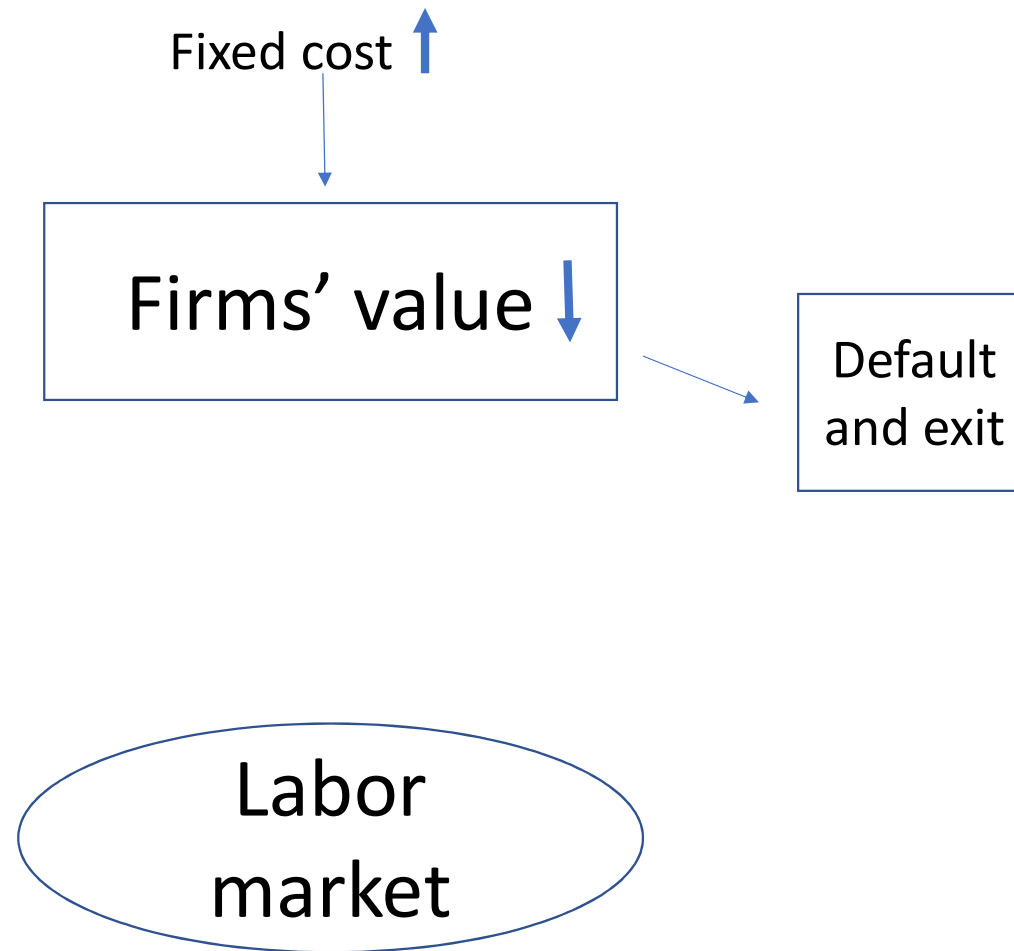
Labor
market

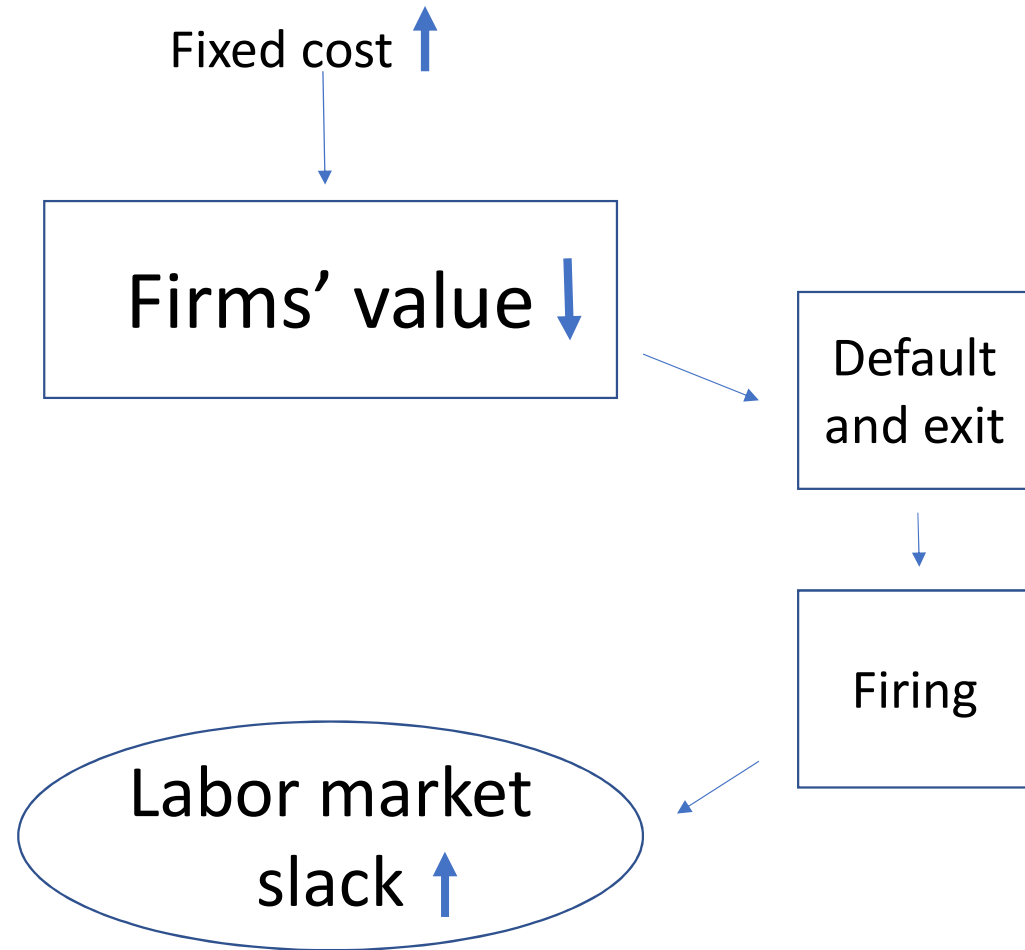
Fixed cost ↑

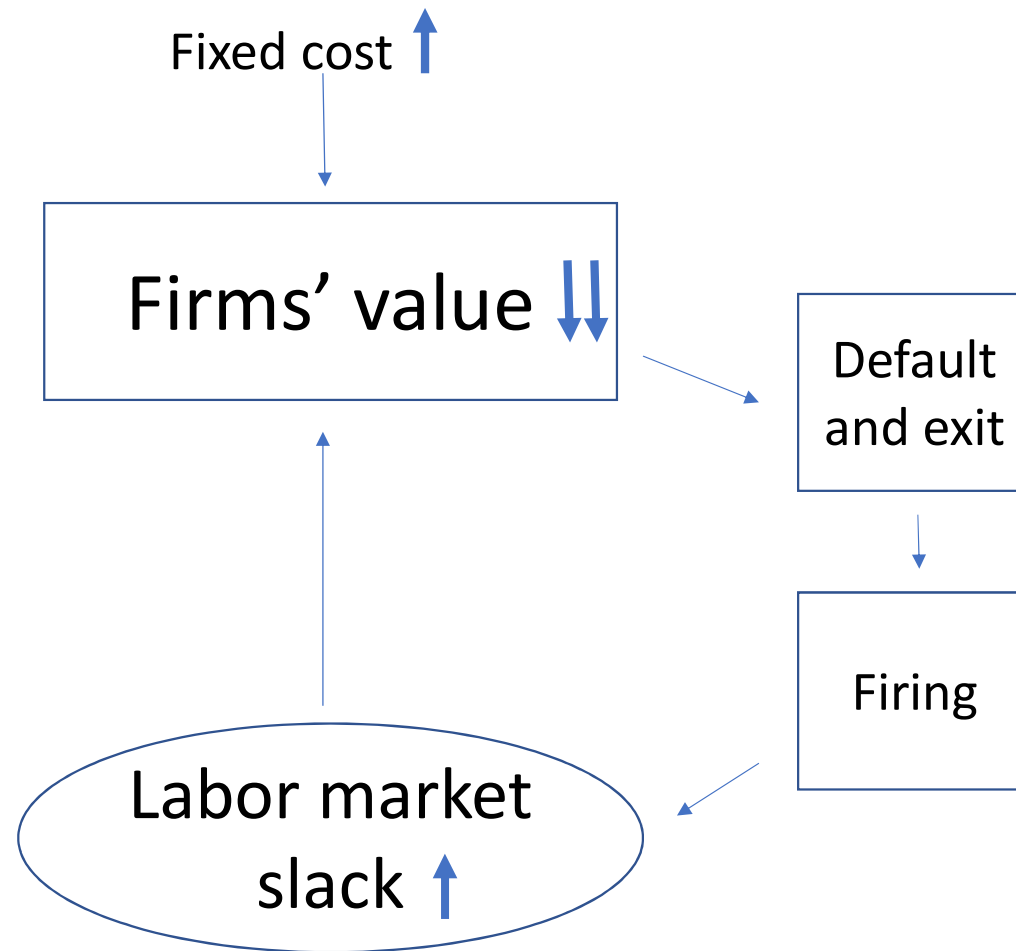


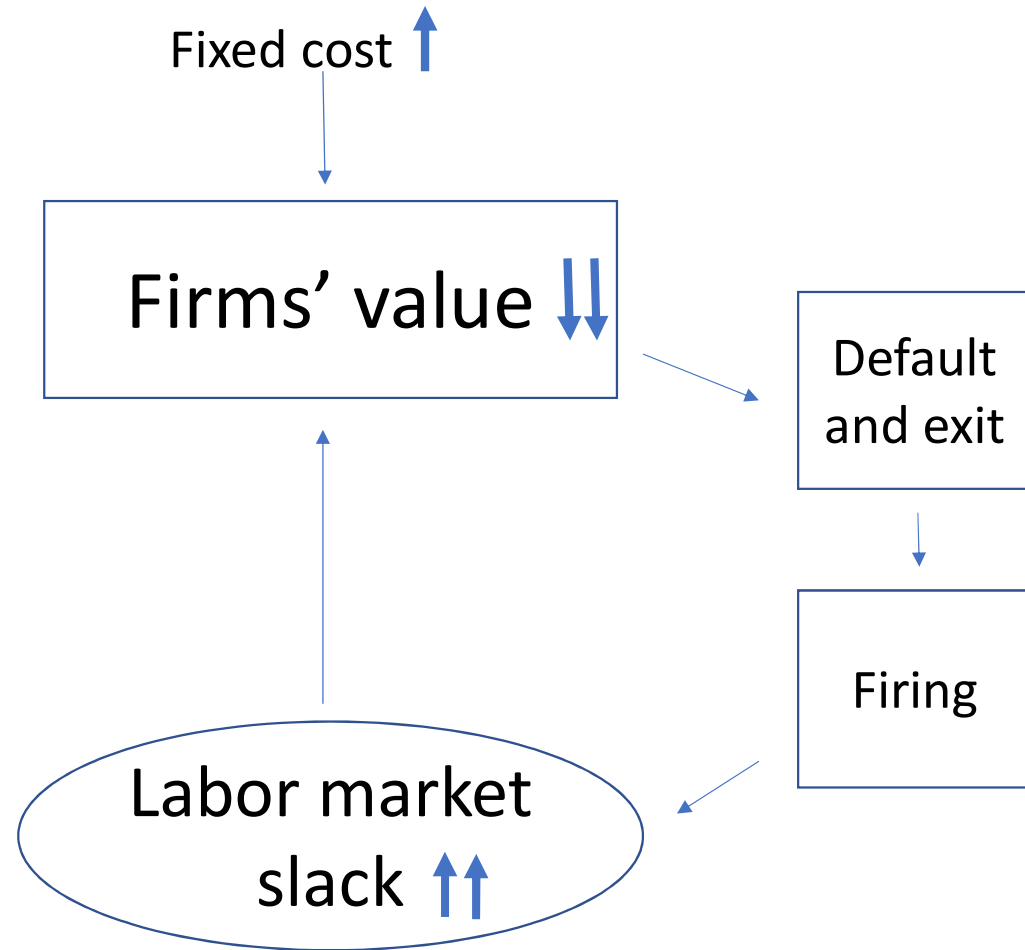
Firms' value ↓

Labor
market









Comment I: clarifying the mechanism

- In model, firm and workers sign state-contingent contract that promises lifetime utility to worker
 - ▶ Workers commit to this contract
 - ▶ They cannot quit even if agreed compensation lies below market wages (slavery?)
- This assumption simplifies solution to firm problem
 - ▶ Maximizing firm value = maximizing surplus
 - ▶ Distribution of surplus is irrelevant
- Crucial for UA: how realistic is this?
- Under alternative contracts (e.g. non-contingent)
 - ▶ Firms could find themselves with expensive incumbent workers
 - ▶ Slack labor market can help then renegotiate labor costs downward
- These channels seem relevant, yet missing

Comment I: clarifying the mechanism

- In model, value of firm is increasing in installed workers

$$\frac{\partial S}{\partial n} = \kappa > 0$$

- Does it follow that value of firm necessarily falls with the value of installed workers?

$$\frac{\partial S}{\partial \kappa} > 0?$$

- Suppose a firm that holds a lot of capital and little labor
 - ▶ Slack labor market reduces value of workers
 - ▶ This paper: firm loses
 - ▶ But it is also now cheaper for firm to expand!
 - ▶ This effect appears nowhere in the paper

Comment II: quantitative exercise

- Compare UA model with walrasian model under fixed reservation wage
- Intuitively, changing labor market conditions should stabilize the economy
 - ▶ Slack labor market: non-defaulting incumbents and new entrants expand
 - ▶ Tight labor market: non-defaulting incumbents and new entrants contract
- And this is exactly what they find

Comment II: quantitative exercise

Table 2: Moments Data-Model

	Data	Model UA	Model no UA	Data	Model UA	Model no UA
Aggregate moments						
	Mean			Std (times 100)		
Output	–	–	–	1.625	1.344	1.833
Investment (rate)	0.143	0.164	0.192	7.421	10.250	7.406
Finding rate	0.425	0.426	–	8.981	3.572	–
Credit Spread	0.414	0.58	0.708	23.889	2.177	1.460
Debt (leverage)	0.660	0.899	0.609	2.458	1.278	0.378
Default rate	0.250	0.287	0.451			
	Persistence			Correlation with Output		
Output	0.850	0.824	0.837	–	–	–
Investment	0.796	0.621	0.610	0.838	0.566	0.692
Finding rate	0.525	0.663	0.927	0.790	0.871	–
Credit spreads	0.810	0.736	0.735	–0.405	–0.896	–0.737
Debt	0.925	0.963	0.958	0.316	0.321	0.246

Comment II: quantitative exercise

- The model with UA displays less aggregate volatility
 - ▶ Would be interesting to show aggregate impulse responses as well
- Unemployment accelerator \neq financial accelerator
 - ▶ Financial accelerator amplifies volatility
 - ▶ Unemployment accelerator dampens it

Comment II: quantitative exercise

- The model with UA displays less aggregate volatility
 - ▶ Would be interesting to show aggregate impulse responses as well
- Unemployment accelerator \neq financial accelerator
 - ▶ Financial accelerator amplifies volatility
 - ▶ Unemployment accelerator dampens it
- Here goal is not to explain aggregate volatility...
 - ▶ ...but to account for firms' valuation and financial conditions
- Yet to be seen in quantitative results
 - ▶ As of now: labor contributes more than capital to volatility in firm's value
 - ▶ Is the model with UA better able to match behavior of firm value?

Comment III: micro-evidence

- 1 Estimate firm-specific probability of default
 - 1 Regress it on firm characteristics (except employment)
 - 2 Residual 1: unexplained probability of default
 2. Regress firm labor on firm characteristics
 - 1 Residual 2: unexplained labor
 3. Regress residual 1 on residual 2
 - 1 Negative and significant correlation
 - 2 High labor associated with lower probability of default
- Author's interpretation: firms with more labor less prone to default
 - Alternative interpretation:
 - ▶ Unobserved shock/firm characteristic affects both employment and default
 - ★ Example: changes in future outlook for the firm

Comment III: micro-evidence

- Focus on firm value as opposed to probability of default
- Test more subtle predictions of the model
 - ▶ How does the correlation between a firm's value and its labor change with tightness of labor market?
- Are there more direct ways of testing the mechanism
 - ▶ Labor market reforms (e.g. reduction in hiring costs)
 - ▶ Asymmetric effect on the value of incumbents and new entrants?

Conclusion

- Interesting paper built on two ideas worth exploring
- More work needed to understand/explain mechanism
- Unsure about quantitative insights
- More can be done on empirical front

