

# The Impact of Labor Market Frictions on Corporate Liquidity Management

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## This paper has a fact

- ▶ In international firm level data, corporate saving is positively related to the lagged labor share.
- ▶ What exactly does this mean?
- ▶ When firms spend more on labor than they do on other factors, they increase cash in the subsequent period.
- ▶ This effect is stronger in countries where wages are more rigid.

## And a model to explain the fact

- ▶ Partial equilibrium, infinite-horizon firm factor accumulation model.
- ▶ Both capital and labor
- ▶ “Sticky” wages.
- ▶ Costly equity issuance.
- ▶ Cash accumulation.

# I want to talk about three things.

- ▶ Why this fact?
- ▶ Get the SMM right.
- ▶ What is the model intuition?

## This fact is not standard.

- ▶ There are two strands of the empirical cash literature:
  - ▶ Large literature — levels of cash:  
Opler, Pinkowitz, Stulz, and Williamson (1999), Bates, Kahle, and Stulz (2009)
  - ▶ Smaller literature — changes in cash:  
Almeida, Campello, and Weisbach (2004), Riddick and Whited (2009)
- ▶ This paper is only looking at changes in cash.
- ▶ And only about one variable — labor share.

## What about cash level facts?

- ▶ Cross-sectionally:
  - ▶ Do high-wage firms hold more or less cash?
  - ▶ Do high-labor-share firms hold more or less cash?
- ▶ Within firms:
  - ▶ Are labor-earnings positively or negatively correlated with cash?
  - ▶ Indicative of firms insuring workers or using cash as a bargaining tool.
- ▶ How does any of this interact with wage rigidity.

## Get the SMM right.

- 1 The standard errors are minuscule! Why?
  - ▶ Bootstrapped weight matrix.
  - ▶ Not bootstrapped but not clustered weight matrix.
  - ▶ Divided by  $N$  one too many times.

Use a double clustered weight matrix, constructed from influence functions.

- 2 Put standard errors on the moment conditions.
- 3 Just estimate all of the parameters, one way or another.

## How do these models work?

- ▶ Production:
  - ▶ Firms want to maximize **shareholder value**.
  - ▶ They do so by using **factors of production** to make stuff.
  - ▶ There is **uncertainty** in the demand/production process.
  - ▶ Factors can be **costly** to adjust.
- ▶ Decisions:
  - ▶ They accumulate factors in good times and reduce them in bad times.
  - ▶ Always keeping an eye to the future.



# Where does financing come in?

Paper

Equity issuance  
(negative dividends)

Debt Cash

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## Where does financing come in?

Paper	Equity issuance (negative dividends)	Debt	Cash
Whited (1992)	No	Yes	No
Gomes (2001)	Costly	No	No
Hennessy and Whited (2005)	Costly	Yes	Negative debt
Riddick and Whited (2009)	Costly	No	Yes

## The current paper is most like Riddick and Whited (2009)

- ▶ Some things are the same:
  - ▶ Stochastic production technology.
  - ▶ Only cash and equity financing — no debt.
  - ▶ Costly equity issuance.
  - ▶ Capital prices are fixed.
- ▶ Some things are not the same:
  - ▶ There are capital **and** labor.
  - ▶ The wage is a weighted average of the profit shock and the lagged wage.

# Cash is a vehicle for transferring resources through time.

So why accumulate it?

▶ Costs:

- ▶ Cash is costly to hold because its rate of return is less than the discount rate.
- ▶ And it cannot even be used to produce output.
- ▶ This means that when factors are productive, cash almost always loses value.

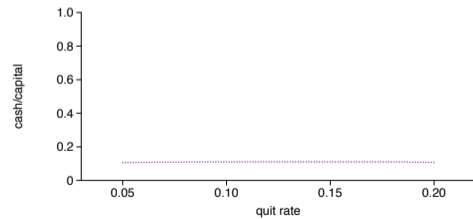
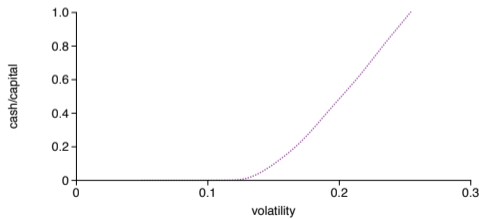
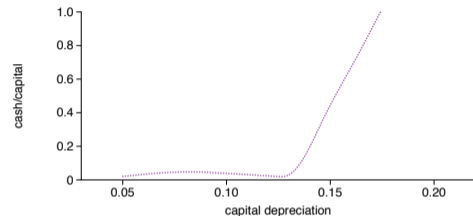
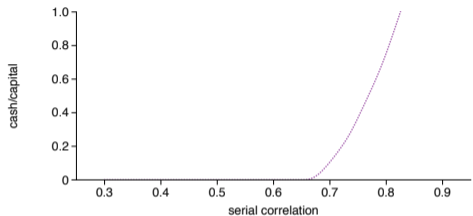
▶ Benefits:

- ▶ But ... it can be used to avoid costly equity issuances.

## Anything that increases the probability of equity issuance makes cash more valuable

- ▶ High volatility
- ▶ High serial correlation
- ▶ Lumpy factor accumulation

# It is important to estimate all parameters because they matter



## Now I can talk about the intuition behind the fact

- ▶ When labor share rises, a cash increase follows.
- ▶ In this model, there is one driving process: the  $z$  shock.
- ▶ So we need to know how labor share and cash move with  $z$ .

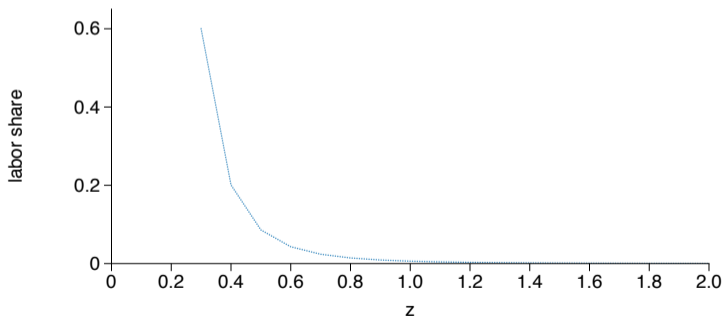
## Why does labor share move in this model?

- ▶ Cobb-Douglas and constant factor prices and no adjustment costs → **constant shares**
- ▶ Three things then make labor share move:
  - ▶ Non-constant wage
  - ▶ Capital adjustment costs
  - ▶ Labor adjustment costs



## Flexible wages make labor share covary negatively with $z$

- ▶ If wage =  $z$ , the quantity of labor is constant.
- ▶ When  $z$  rises, wage  $\times$  labor rises proportionally
- ▶ Output rises more than proportionally because capital rises.



## Adjustment costs work intuitively.

- ▶ If factor prices are constant:
  - ▶ If labor is more costly to adjust, labor share moves negatively with  $z$
  - ▶ If capital is more costly to adjust, labor share moves positively with  $z$

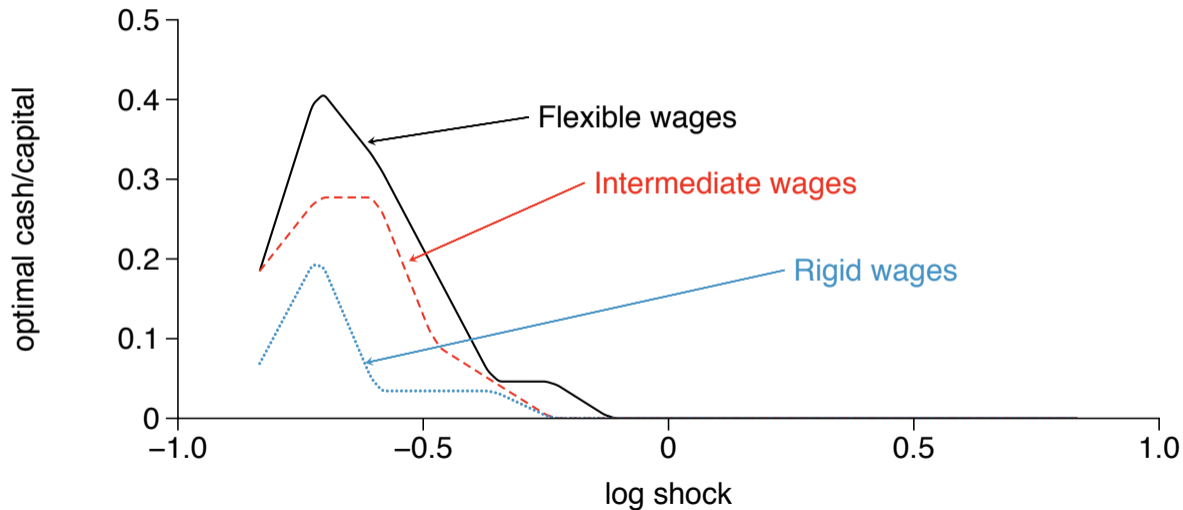
## But I cannot figure out how all three work together.

- ▶ There are too many things going on at once even for me.
  - ▶ **Partial** wage flexibility, labor higher than capital adjustment costs
- ▶ I'd like cleaner intuition.
- ▶ Quantitatively, it would be great to get dynamics right.
- ▶ Not just variances, but covariances and serial correlations.

## The author's negative relation between $z$ and labor share is fine

- ▶ Labor share is mildly countercyclical in developed countries.
- ▶ Very procyclical and volatile in developing countries

# Optimal cash holding is all about income and substitution effects



## So here is how the paper works.

- 1 positive shock
- 2 cash falls (substitution effect)
- 3 labor share falls
- 4 you can see a time lag because of persistence

## The modeling of rigidity could be improved

- ▶ Wage rigidity in the model is very reduced form, and flexibility is both upward and downward.
- ▶ My read of the macro/labor literature is that wages are downwardly sticky, but not upwardly sticky.
- ▶ Why not model rigidity as the outcome of a bargaining problem (Monacelli, Quadrini, and Trigari 2011; Michaels, Page, and Whited 2019)

## One final point

Lose the word “determinant.”



## A paper with enormous potential

- ▶ This is an under-explored corporate finance question.
- ▶ This is the right way to go about it.
- ▶ Great start, but rough around the edges.

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