

Discussion of “Strategic Complimentarities and Optimal Monetary Policy”

Steve Ambler

ambler.steven@uqam.ca

Université du Québec à Montréal

Introduction

- The paper looks at 2 different mechanisms that amplify the effects of monetary disturbances in New Keynesian models.

Introduction

- The paper looks at 2 different mechanisms that amplify the effects of monetary disturbances in New Keynesian models.
- 1) Kinked demand curves. 2) Firm-specific factors.

Introduction

- The paper looks at 2 different mechanisms that amplify the effects of monetary disturbances in New Keynesian models.
- 1) Kinked demand curves. 2) Firm-specific factors.
- Similar effects on the sensitivity of inflation to real marginal costs.

Introduction

- The paper looks at 2 different mechanisms that amplify the effects of monetary disturbances in New Keynesian models.
- 1) Kinked demand curves. 2) Firm-specific factors.
- Similar effects on the sensitivity of inflation to real marginal costs.
- Radically different effects on the welfare costs of inflation.

Introduction

- I want to accomplish two main goals in my discussion.

Introduction

- I want to accomplish two main goals in my discussion.
- 1) Convey the basic intuition behind their qualitative results.

Introduction

- I want to accomplish two main goals in my discussion.
- 1) Convey the basic intuition behind their qualitative results.
- 2) Conjecture why the welfare costs of inflation with firm-specific factors are so high.

Introduction

- I want to accomplish two main goals in my discussion.
- 1) Convey the basic intuition behind their qualitative results.
- 2) Conjecture why the welfare costs of inflation with firm-specific factors are so high.
- I'll also make a few remarks about some details of the model, notably the Phillips curve.

Intuition

- Inflation is costly in the standard New Keynesian model because of price dispersion.

Intuition

- Inflation is costly in the standard New Keynesian model because of price dispersion.
- Price dispersion leads directly to a dispersion in the quantities of intermediate goods used to produce final output.

Intuition

- Inflation is costly in the standard New Keynesian model because of price dispersion.
- Price dispersion leads directly to a dispersion in the quantities of intermediate goods used to produce final output.
- A social planner would want to use equal quantities of these goods to equalize their marginal products.

Intuition

- Inflation is costly in the standard New Keynesian model because of price dispersion.
- Price dispersion leads directly to a dispersion in the quantities of intermediate goods used to produce final output.
- A social planner would want to use equal quantities of these goods to equalize their marginal products.
- This is well understood.

Intuition (cont.)

- In the standard model, inflation also has a non-monotonic effect on average markups.

Intuition (cont.)

- In the standard model, inflation also has a non-monotonic effect on average markups.
- At low inflation rates, an increase in inflation reduces average markups.

Intuition (cont.)

- In the standard model, inflation also has a non-monotonic effect on average markups.
- At low inflation rates, an increase in inflation reduces average markups.
- In the standard model, the impact of price dispersion becomes quantitatively much larger at even low levels of inflation.

Intuition (cont.)

- **Firm-specific factors**

Intuition (cont.)

- **Firm-specific factors**
- This case is, I think, relatively easy to understand.

Intuition (cont.)

- Firm-specific factors compound the costs of price dispersion.

Intuition (cont.)

- Firm-specific factors compound the costs of price dispersion.
- Low-relative price firms produce more intermediate goods because of high demand.

Intuition (cont.)

- Firm-specific factors compound the costs of price dispersion.
- Low-relative price firms produce more intermediate goods because of high demand.
- Not only do these goods have a low marginal product in the production function for the final good, they are also produced at high marginal cost.

Intuition (cont.)

- Firm-specific factors compound the costs of price dispersion.
- Low-relative price firms produce more intermediate goods because of high demand.
- Not only do these goods have a low marginal product in the production function for the final good, they are also produced at high marginal cost.
- Note that the profits of such firms get hit with a double whammy.

Intuition (cont.)

Kinked demand curves

Intuition (cont.)

- **Kinked demand curves**
- This case is a bit more tricky.

Intuition (cont.)

- The aggregator equation (3) gives an exact price index that **gives much more weight to prices that are higher than average.**

Intuition (cont.)

- The aggregator equation (3) gives an exact price index that **gives much more weight to prices that are higher than average.**
- The weighted average of firms' relative prices is, by construction, equal to 1.

Intuition (cont.)

- The aggregator equation (3) gives an exact price index that **gives much more weight to prices that are higher than average.**
- The weighted average of firms' relative prices is, by construction, equal to 1.
- Firms with relative prices above one have relative prices that are very close to one.

Intuition (cont.)

- The aggregator equation (3) gives an exact price index that **gives much more weight to prices that are higher than average.**
- The weighted average of firms' relative prices is, by construction, equal to 1.
- Firms with relative prices above one have relative prices that are very close to one.
- Firms with relative prices below one have really low relative prices that don't get much weight in the price index.

Intuition (cont.)

- High-price firms have relative prices not much above 1. Demand for their output is not much below average.

Intuition (cont.)

- High-price firms have relative prices not much above 1. Demand for their output is not much below average.
- Demand for the output of low-price firms is not much above average even if their relative prices are really low (kinked demand).

Intuition (cont.)

- High-price firms have relative prices not much above 1. Demand for their output is not much below average.
- Demand for the output of low-price firms is not much above average even if their relative prices are really low (kinked demand).
- This compresses the dispersion of quantities of intermediate goods. W/o firm-specific factors, the loss in efficiency in producing final output is modest.

Intuition (cont.)

- Because of the way the price index works, an increase in inflation has a stronger negative effect on average markups.

Intuition (cont.)

- Because of the way the price index works, an increase in inflation has a stronger negative effect on average markups.
- This reduction in average markups is stronger by an order of magnitude than in the standard model.

Intuition (cont.)

- Note that I've said nothing about optimal price setting by firms.

Intuition (cont.)

- Note that I've said nothing about optimal price setting by firms.
- The intuition can be understood purely in terms of the weights in the exact price index.

Intuition (cont.)

- Note that I've said nothing about optimal price setting by firms.
- The intuition can be understood purely in terms of the weights in the exact price index.
- Reasoning about this behavior reinforces the intuition.

Intuition (cont.)

- Because demand is very elastic for relative prices above one, firms really don't want their relative price to be too high.

Intuition (cont.)

- Because demand is very elastic for relative prices above one, firms really don't want their relative price to be too high.
- They're less concerned about having a low relative price because in any case demand is inelastic.

Intuition (cont.)

- Because demand is very elastic for relative prices above one, firms really don't want their relative price to be too high.
- They're less concerned about having a low relative price because in any case demand is inelastic.
- When setting their price, they want a relative price that is initially not much above 1 even if this means that it will fall far below 1 before they have a change to reset.

Firm-specific Factors

- Why are welfare costs with firm specific factors so huge?

Firm-specific Factors

- Why are welfare costs with firm specific factors so huge?
- It's a tale about the tails.

Firm-specific Factors (cont.)

- Ascari (2004). Calvo contracts, standard model, standard parameterization.

Firm-specific Factors (cont.)

- Ascari (2004). Calvo contracts, standard model, standard parameterization.
- The maximum sustainable annual rate of steady-state inflation is 12.6%.

Firm-specific Factors (cont.)

- Ascari (2004). Calvo contracts, standard model, standard parameterization.
- The maximum sustainable annual rate of steady-state inflation is 12.6%.
- 10% annual inflation lowers steady-state output by 26%.

Firm-specific Factors (cont.)

- Why? With Calvo contracts, a small number of firms have not changed prices for a very long time.

Firm-specific Factors (cont.)

- Why? With Calvo contracts, a small number of firms have not changed prices for a very long time.
- W/ positive trend inflation, their relative price is really low.

Firm-specific Factors (cont.)

- Why? With Calvo contracts, a small number of firms have not changed prices for a very long time.
- W/ positive trend inflation, their relative price is really low.
- W/ sufficiently elastic demand, they are capturing a huge chunk of the market.

Firm-specific Factors (cont.)

- Why? With Calvo contracts, a small number of firms have not changed prices for a very long time.
- W/ positive trend inflation, their relative price is really low.
- W/ sufficiently elastic demand, they are capturing a huge chunk of the market.
- Maximum sustainable rate of inflation: the point where the firms in the tail capture the **whole** market.

Firm-specific Factors (cont.)

- Amano, Ambler and Rebei (2007): standard model, Calvo contracts, higher-order approximations to capture the impact of inflation on price dispersion outside the steady state.

Firm-specific Factors (cont.)

- Amano, Ambler and Rebei (2007): standard model, Calvo contracts, higher-order approximations to capture the impact of inflation on price dispersion outside the steady state.
- We show that the impact of trend inflation on **stochastic means** is as great if not greater than on steady-state levels.

Firm-specific Factors (cont.)

- With firms-specific factors, these firms in the tail are also using way more than their share of variable inputs.

Firm-specific Factors (cont.)

- With firms-specific factors, these firms in the tail are also using way more than their share of variable inputs.
- This amplifies the social costs of inflation as illustrated in Figure 6 in the paper.

Firm-specific Factors (cont.)

- With firms-specific factors, these firms in the tail are also using way more than their share of variable inputs.
- This amplifies the social costs of inflation as illustrated in Figure 6 in the paper.
- Imagine the net profits of these firms in the tail.

Firm-specific Factors (cont.)

- Ascari (2004), Amano, Ambler and Rebei (2007): Calvo contracts are not appropriate for modeling economies with positive trend inflation (even moderate).

Phillips Curve

- In Section 6 they analyze optimal stabilization policy in a linear-quadratic framework.

Phillips Curve

- In Section 6 they analyze optimal stabilization policy in a linear-quadratic framework.
- Justified by the old Erceg, Henderson, Levin (2000) trick of eliminating distortions from the steady state w/ fiscal policy.

Phillips Curve

- In Section 6 they analyze optimal stabilization policy in a linear-quadratic framework.
- Justified by the old Erceg, Henderson, Levin (2000) trick of eliminating distortions from the steady state w/ fiscal policy.
- In this analysis, they use the linearized Phillips curve given by equation (12) in the paper.

Phillips Curve (cont.)

- What's wrong with this?

Phillips Curve (cont.)

- What's wrong with this?
- The Phillips curve is linearized around **zero trend inflation** (alternatively, it assumes complete indexation of prices to trend inflation).

Phillips Curve (cont.)

- What's wrong with this?
- The Phillips curve is linearized around **zero trend inflation** (alternatively, it assumes complete indexation of prices to trend inflation).
- We know the linearized Phillips curve doesn't look like this under positive trend inflation.

Phillips Curve (cont.)

- Ascari (2004): form of the linearized Phillips curve under positive trend inflation.

Phillips Curve (cont.)

- Ascari (2004): form of the linearized Phillips curve under positive trend inflation.
- Bakhshi, Burriel-Llombart, Khan and Rudolf (2007): linearized Phillips curve w/ positive trend inflation and strategic complementarity.

Phillips Curve (cont.)

- Ascari (2004): form of the linearized Phillips curve under positive trend inflation.
- Bakhshi, Burriel-Llombart, Khan and Rudolf (2007): linearized Phillips curve w/ positive trend inflation and strategic complementarity.

Phillips Curve (cont.)

- Ascari (2004): form of the linearized Phillips curve under positive trend inflation.
- Bakhshi, Burriel-Llombart, Khan and Rudolf (2007): linearized Phillips curve w/ positive trend inflation and strategic complementarity.

Phillips Curve (cont.)

- The results of Section 6 should be thought of as holding only if trend inflation is 0 or very low.

Phillips Curve (cont.)

- The results of Section 6 should be thought of as holding only if trend inflation is 0 or very low.
- W/ higher trend inflation, the Phillips curve flattens out.

Phillips Curve (cont.)

- The results of Section 6 should be thought of as holding only if trend inflation is 0 or very low.
- W/ higher trend inflation, the Phillips curve flattens out.
- This would affect the results, at least quantitatively.