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Monetary Policy and Resource Mobility

Bank of Finland's 200th Anniversary Conference
Helsinki , Finland
6 May 2011

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Governor

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Outline

- Brief summary of paper's key points
- Research and policy modelling at Bank of Canada
- Future directions for research

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Monetary policy and resource mobility

- Walsh's paper highlights important issue of labour market in modern DSGE models
  - Involuntary unemployment is economic reality, yet absent from most DSGE policy models
  - Workhorse New Keynesian model assumes a single sector and perfect labour mobility within sector
- Do these omissions matter for:
  - The transmission of shocks?
  - The objectives of monetary policy?

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Monetary policy and resource mobility

- Transmission of shocks – **yes**
- Goals of monetary policy – **less clear**
  - Weight on labour market tightness and first difference of employment very small
  - Inflation stabilization remains the pre-eminent goal of policy in the basic NK model, with or without labour market frictions

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Monetary policy and resource mobility

- Loss function sensitive to choice of labour-market friction
- Quadratic adjustment costs are convenient
  - But reduced-form nature suggests caution when performing welfare analysis
  - Steeper Phillips curve may be at odds with inflation data
  - BoC models incorporate other resource adjustment costs, most notably firm-specific capital, resulting in a flatter Phillips curve

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Monetary policy and resource mobility

- Costly resource allocation, multiple sectors and firm-owned factors of production absent from stylized NK model
- Very much present in BoC policy models (ToTEM, BoC-GEM)
  - Multiple goods sectors with costly resource adjustment
  - Quadratic adjustment costs on labour, capital and primary inputs
  - Capital is firm-owned in ToTEM
  - Diminishing returns to scale in the production of commodities, reflecting fixed land endowment

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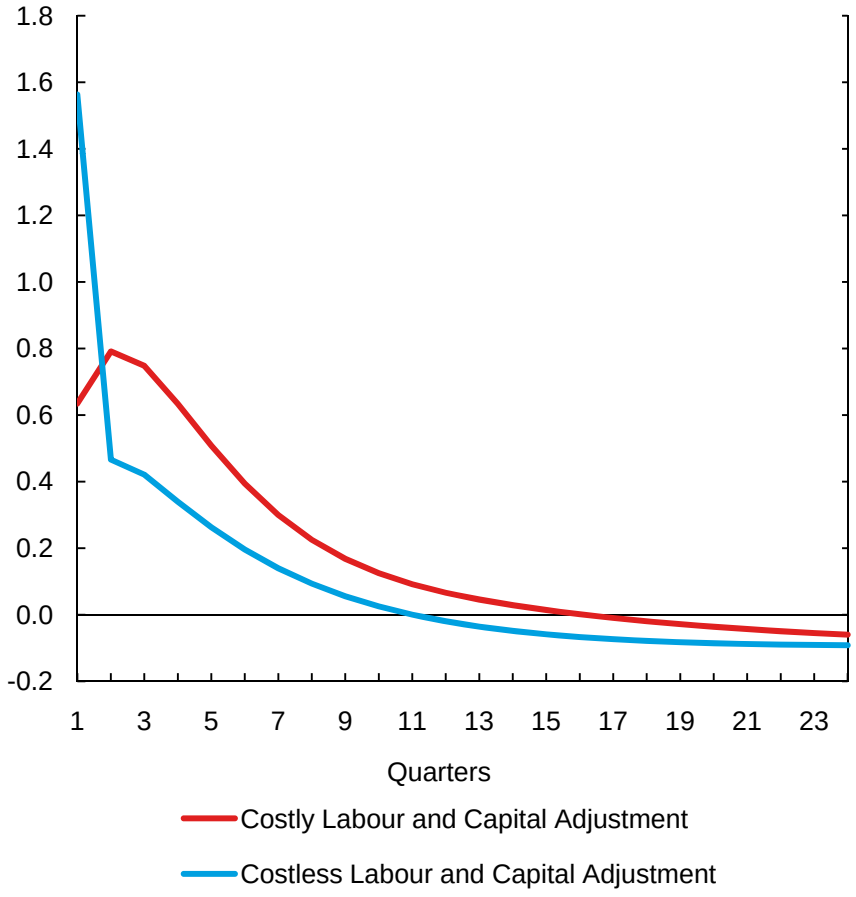
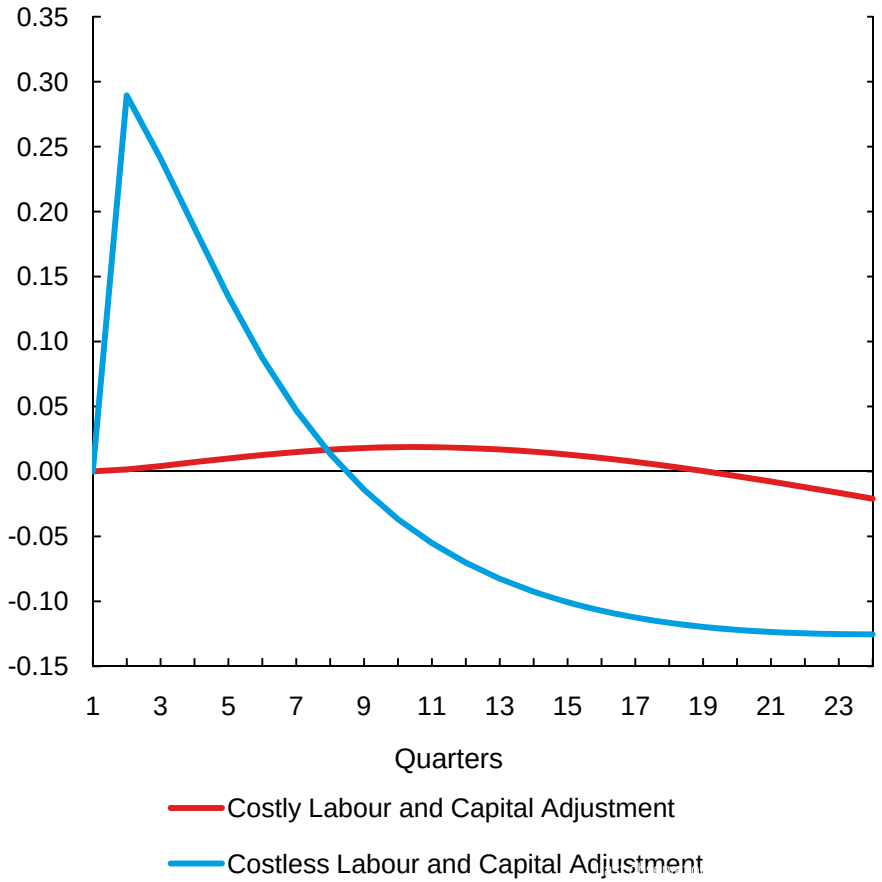
Consumption demand shock

Employment (per cent)



Source: Bank of Canada calculations

Capital stock (per cent)



Source: Bank of Canada calculations

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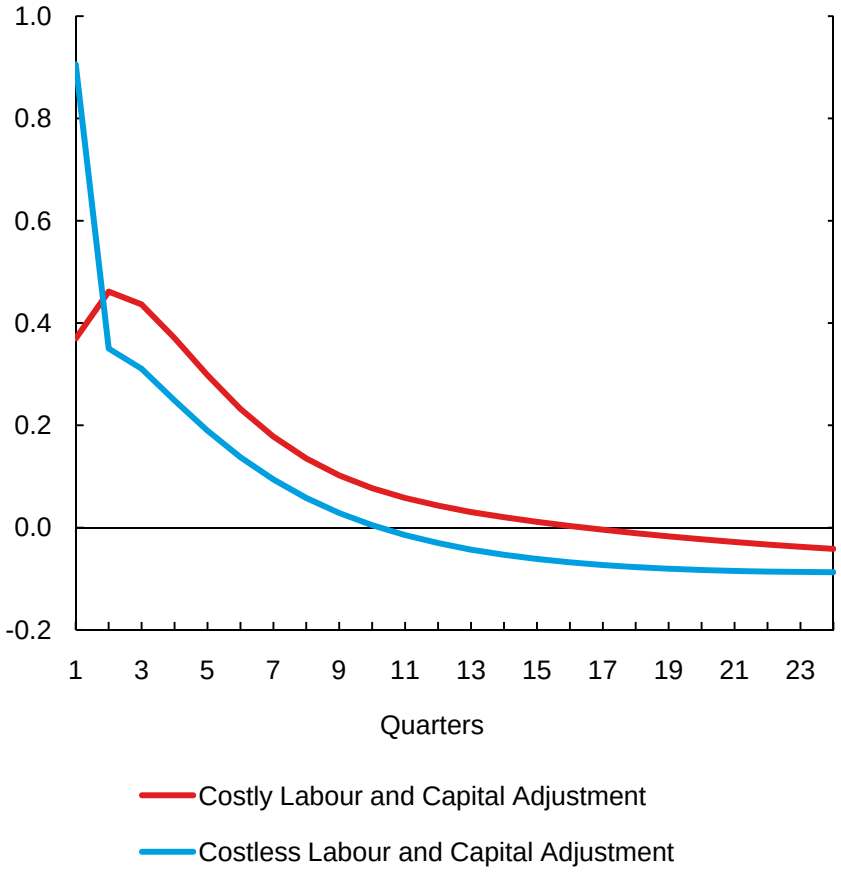
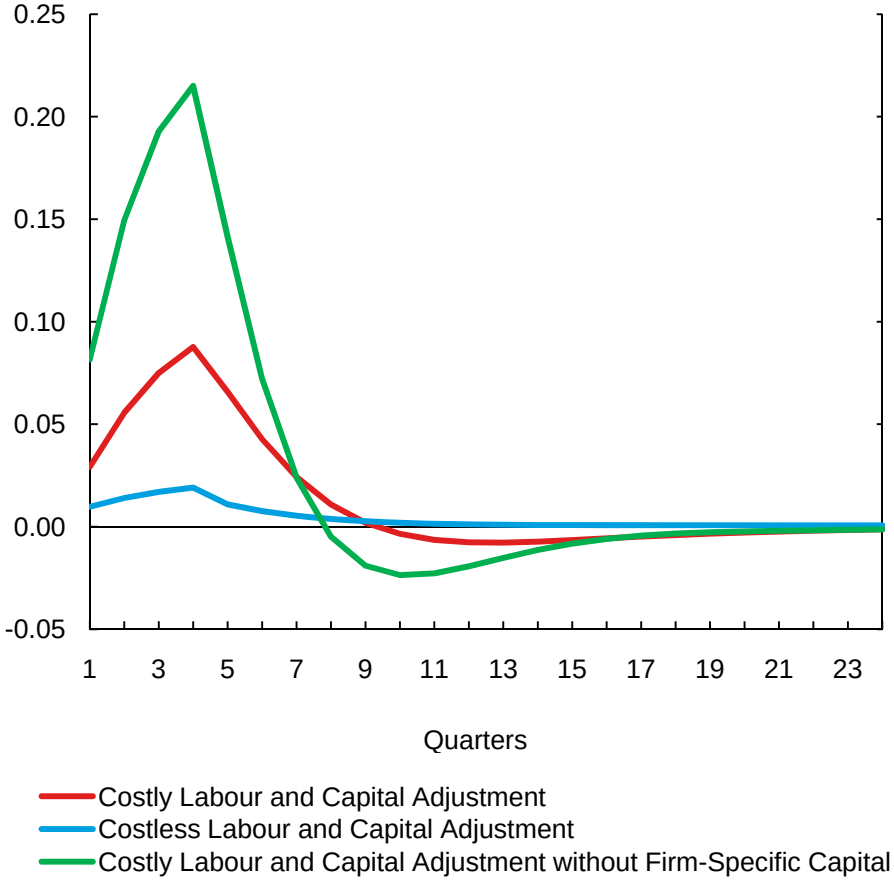
Consumption demand shock

Output (per cent)



CPIX inflation (per cent)



Source: Bank of Canada calculations

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Related BoC research: Policy applications

Implications for monetary policy design:

- Absent resource adjustment costs, optimal inflation index will give higher weight to stickier-price sectors
- de Resende et al. (2010): appropriate inflation index also reflects costs of shifting resources across sectors
  - Policy affects relative prices and activity across sectors, and can be a cause of inefficient resource reallocation
  - Targeting overall CPI inflation dominates targeting sector with greatest nominal rigidity (using their parameter estimates)

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Related BoC research: Policy applications

Implications for monetary policy design:

- Murchison (2011) and Coletti et al. (2011): optimal degree of history dependence varies inversely with size of short-run adjustment costs
  - Firms' optimal price depends increasingly on past economic conditions as adjustment costs rise
  - Smaller benefits to price-level targeting

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Future directions for research

- Not clear that current-generation models fully capture true welfare effects of unemployment
- Many stylized models analyze impact of labour-market frictions in isolation (only real friction)
- Interaction with other real frictions may amplify these effects
  - Zhang (2011) studies unemployment/vacancies in a model with an endogenous external finance premium
    - Higher financing costs in a downturn lower the desired level of capital investment and, therefore, labour demand

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Summary

- Inclusion of labour-market frictions can have important implications for economic dynamics
  - Employment shares across sectors
  - Aggregate dynamics (Phillips curve relation)
  - Specification of optimal policy
- Implications for welfare function appear to be small and dependent on the details of the friction introduced
- Models exist with resource adjustment costs across all factors of production
- Policy-makers require rich models with sensible assumptions, lots of data (macro and micro), and a good dose of judgment

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